SOIL conservation

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From the Administrator

Youth: Partners in Conservation

More than 160 Youth Boards organized by conservation districts now are giving senior high school students a chance to be partners in conservation planning and action. The Soil Conservation Service applauds this innovative endeavor by districts.

With district leaders as their mentors and guides, Youth Boards already have given new impetus to ongoing district conservation programs. They have carried out a wide variety of special conservation projects and activities.

In Virginia, the Youth Board of the Northern Virginia Soil and Water Conservation District organized and got county officials to fund the Fairfax County Youth Conservation Corps for 2 years. The Corps blazed park trails; collected and tested water samples; conducted nature tours in a regional park; and mapped the location of sediment deposits in two small watersheds.

In Utah, the Soil Conservation District Junior Board in Tooele County has for 2 years collected standard snow survey data on four snow survey courses. The Junior Board also organized high school students to seed by hand several critically eroding areas where air pollution from an old smelter had killed vegetation.

In Illinois, the Youth Board of the Coles County SWCD initiated a city leaf collection project, with the tons of leaves used as mulch on severely eroding rural lands.

In Connecticut, the Youth Board of the Litchfield County SWCD produced and distributed to more than 1,000 county residents a brochure on measures that homeowners could use to control gypsy moths and elm span worms.

In Wisconsin, the Youth Board of the Green Lake SWCD planned, organized, and helped develop the outdoor classroom for the Berlin school system.

In Kentucky, the Youth Board of the Clark County SWCD stabilized a 50-acre eroding area adjacent to the high school by grading and shaping it and then seeding Kentucky fescue and clover.

Other recent Youth Board projects include:

- building conservation exhibits for fairs.
- helping plan and lay out bicycle trails.
- carrying out a streambank repair and maintenance program.
- preparing slide programs on conservation for students.
- conducting a litter-free stream program.

This impressive array of accomplishments makes one wonder how a district board can afford to be without a Youth Board. There is evidently a tremendous potential for advancing the cause of conservation in combining the experience and wisdom of local district officials with the energy and enthusiasm and scientific knowledge of young people.

All of us have a stake in seeing to it that today's young people have a chance to learn more about conservation, to develop skills as conservationists, and to help make decisions about the kind of environment in which they want to live. Starting a Youth Board is one good way of creating such opportunities.

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Earl L. Butz
Secretary of Agriculture

R. M. Davis, Administrator
Soil Conservation Service

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COVER: Improving grazing lands not only helps protect soil and water resources but provides for greater weight gains by livestock. On this farm in the Oneida Soil and Water Conservation District in Idaho, cows and calves feed on a good stand of intermediate wheatgrass.

A Youth Project With a Big Heart

by Donald Menard
District conservationist, SCS, Franklin, Louisiana

"One of the most rewarding experiences of my life" is the way Lawrence St. Blanc describes a project by the seven young people to whom he serves as an adviser: the Junior Board of Supervisors of the St. Mary Soil and Water Conservation District (SWCD) in southern Louisiana.

The project is an outdoor classroom at the Center of Hope School, a day school in Centerville dedicated to developing the capabilities of the mentally retarded in St. Mary Parish.

The outdoor classroom includes a nature trail with gravel path, birdbath, park bench, and picnic table. It provides learning opportunities in self-help skills, language development, community adjustment, and motor development for the 37 students, ages 2 to 30, currently enrolled in the school.

The project began 2 years ago during one of the Junior Board's regular brain-storming sessions to seek out community service projects. The Board, appointed by the St. Mary SWCD, is comprised of high school students who help focus attention on local natural resource problems and ways of solving them.

The idea of the Junior Board spearheading the development of an outdoor classroom at the Center of Hope School received the wholehearted support of Pat Bertrand, who attended the session. Bertrand was then president of the St. Mary Parish Association for Retarded Citizens (SMARC), which had just founded the school.

Through income from membership dues, contributions, fundraising events, and matching federal funds, the nonprofit SMARC built the school in a central location so local students could live at home and commute to school. Previously, children had usually been institutionalized in private or public facilities in other parishes due to lack of local facilities.

As word of the Junior Board's project spread, civic and service organizations, businesses, school classes, youth groups, police and fire departments, and government agencies offered assistance and supplies.

With the approval of SMARC and the help of several specialists from the Soil Conservation Service, the Junior Board members developed a plan for the outdoor classroom.

The parish police jury, which is the local governing parish body, supplied needed gravel for the trail through a small wooded area on the 5-acre school site. The Bayou Vista and Patterson Knights of Columbus donated a picnic table and the St. Mary SWCD supplied materials for the park bench built by a local Future Farmers of America (FFA) chapter. FFA members also built and installed a wooden bridge over a drainage ditch on the school site.

Work crews were formed by the Junior Board members from the organizations and classes in their respective schools. Fifteen to 20 young people, including the members of the Junior Board, often worked on the project after school and on weekends.

A small vegetable garden, included in the Junior Board's plan, was planted next to the school building and is now used by students of all ages to study the care and growth of plants.

Mrs. Brenda Herndon, one of the teachers provided to the school by the Louisiana Department of Hospitals, uses vegetables from the garden to teach food preparation.

"The garden and trail are good therapy for most of the students," said Miss Janice Dabney, one of the teachers employed by the St. Mary Parish School Board to work at the school. "Long field trips are just about impossible, but the classroom here on the school site is so handy we can use it anytime we want."

"One of the best ways our students learn is by seeing

things and by repetition," said Mrs. Cathy Mitchell, another regular user of the outdoor classroom. "The trail provides many such opportunities."

Classes may return to the same area along the trail each day, repeating lessons from the preceding day and also noting changes that may have occurred.

"For students with coordination difficulties," added Mrs. Mitchell, "the trail also furnishes the physical exercise they need for motor development."

The outdoor classroom at the Center of Hope School will never be completed. The people involved, including the Junior Board members, see the classroom as a dynamic program. New plants are grown each year and new adventures and learning experiences are combined with past lessons and familiar plants and animals.

Junior Board members are working with students and teachers to erect bird feeders and houses, improve and enlarge the picnic area, plant more flowers for color and variety. As a lead-in to animal studies, they are helping construct a sand area where students can observe and identify the tracks of animals passing through the site.

As with the outdoor classroom, the school itself is continuing to grow. A second building with an additional classroom, a gymnasium, and physical therapy facilities is nearing completion.

SMARC is working on plans for a "sheltered workshop" which would provide retarded citizens over the age of 21 with meaningful employment.

For the Junior Board of Supervisors, work on the outdoor classroom has turned into more than a one-time community service project. It has given the board members insight into some very special community problems and ways they can help solve them.

"The Junior Board has given a lot to the school," said Pat Bertrand of SMARC, "and I think they as individuals have gained a lot in return." ♦

Mrs. Cathy Mitchell (top photo), a teacher at the Center of Hope School, uses the nature trail for classwork. At right, Junior Board member David Robicheaux shows students how to transplant tomato plants for the vegetable garden. The garden is part of the outdoor classroom set up by the Junior Board of Supervisors of the St. Mary Soil and Water Conservation District in Louisiana.

Conservation Plant Materials Make Good on 'Moonscape'

by Thomas W. Badger
District conservationist, SCS, Columbus, Kansas

Conservation plant materials developed by the Soil Conservation Service may not be growing on the moon, but in the southeast corner of Kansas several are making it on topography that resembles a moon landscape.

The 20,000 acres which have been surface mined for coal in the Cherokee County Conservation District are a conservation nightmare—the most adverse possible seedbed for

Author Thomas Badger looks at a surface-mined area, nearly barren of vegetation and which has not been reclaimed.

plant growth. Much of the land has been left in spoil banks to revegetate itself. This has proven to be a slow process and the resulting vegetation is of poor quality and leaves an unattractive landscape.

In a cooperative effort, the SCS Plant Materials Center at Manhattan, Kansas, has provided more than 50 species and varieties of trees, shrubs, grasses, and legumes to the conservation district for plant materials trials by cooperators in surface-mined areas. The survival rate on many species was almost zero. This was due in part to the low pH—much of the land has been left in extremely acid spoil—and also to summer drought and improper planting methods.

However, a few species have made an excellent showing.

Kanlow switchgrass, used as a shoreline planting, has spread over a wide area from its original plantings. It has stabilized the shoreline around "strip-pit" lakes and provided escape and nesting cover for waterfowl.

Emerald crownvetch has also provided excellent ground cover. It has spread by rhizomes to adjacent plots of legumes and grasses, and in every area where it was planted it has crowded out all other vegetation except trees. On one site, it formed a 3-inch layer of mulch in 3 years.

Mixtures of native warm season grasses provided good cover on smoothed surface-mined land. It takes a little longer to establish native grasses, but once established, they fill in the bare areas. They have provided excellent wildlife habitat as well as usable forage for grazing by livestock. Native grasses supplement the forage needs of livestock during the summer months when tame cool season grasses are somewhat dormant.

Kudzu has also shown vigorous growth. One planting has completely covered an island in a "strip-pit" lake and another planting is rapidly spreading over an ungrazed area.

Several tree and shrub species have also been successfully established.

These trees and shrubs, along with the adapted grasses and legumes, show that the revegetation work on a "moonscape" is possible.

Adapted plant materials, the right seeding or planting methods, and proper management are key factors in reclaiming these surface-mined lands. ♦

Smoothed surface-mined land (center) on this farm in Cherokee County Conservation District, Kansas, has been successfully seeded to native grasses for pasture. At far left is land that has not been reclaimed.

The life cycle of the caddisfly is the subject of a "lecture" by student guides as a class looks for caddisfly larvae in a stream.

Student Guides in Vermont Lead Natural Resource Studies

by Linda J. Prescott and Robert M. Towne
Information specialist, SCS, Burlington, Vermont, and district conservationist, SCS, Essex Junction, Vermont

"Learning while teaching" is a theme that's carried out in an outdoor laboratory used by students throughout Vermont.

Last year, high school guides helped 800 elementary students learn about natural resources at the 50-acre nature complex at Mt. Mansfield Union High School in Jericho near Burlington.

"More than 70 students signed up as guides this school year," said Bob Smith, science coordinator at the school and the originator of the student guide program. "It's the largest club in the school."

Brian Thornton, a senior, reflects student enthusiasm for the volunteer guide program. He not only attends the required training seminars, but gives willingly of his spare time to work on the nature trail.

There's a lot of maintenance work to be done, such as clearing brush, mending bridges and marking trails, and it's all done by students.

During the school year students attend required training sessions. The sessions are conducted in cooperation with the Soil Conservation Service, Forest Service, Extension Service, and the Vermont Department of Fish and Game. Specialists from these agencies work in

their respective areas with the students.

As SCS district conservationist, Bob Towne works with student guides in soil surveys. He and the guides dig five to six holes in the nature area for soil profiles and then study the limitations of the soils for their uses. By feeling the soil and looking at it, students begin to acquire a respect for the soil and its capabilities.

Occasionally, training sessions move out of the study area, which includes marsh and woodland, into the higher mountainous elevations. Students then integrate their knowledge as it applies to alpine vegetation, soil, geology, and wildlife.

The knowledge that the students carry away from the training sessions is put to use in their work as student guides.

"There are so many things to teach the kids," says Robin, a junior. "As student guides, we stress the importance of everything from fungus to trees in the ecological systems."

The guides usually travel in pairs with a group of six youngsters. That way, they can keep a close watch on those prone to wander.

A game is played to teach a lesson in safety. When the student comes to a branch, he or she passes it to the person behind and waits for a thank you. Lessons often result from unexpected events. Brian Thornton recalls the time his group was late getting back to the bus. "We saw a snake eating a frog, and we had to wait to see the frog go down inside."

Bob Smith says he feels that the student guide program offers the high school students as much as the younger ones.

"They gain confidence in themselves and through this broad knowledge of natural resources, many students are inspired to go on to college to become soil scientists, foresters, biologists, ecologists, or to go into other related professions."

But perhaps most important, these young citizens and future voters will be made aware of their natural resources, and the necessity of conserving them. ♦

Above, a student guide shows elementary school students how to tell red pine needles from white pine. Below, both guides and class take a break and cool off during a tour of the school nature complex.

Half a Century Of Tree Planting

by Orlin I. Lyng
District conservationist, SCS, Bismarck, North Dakota

This year, in his 48th year of planting trees, Edward Flanagan plans to plant a bicentennial windbreak on his North Dakota farm northeast of Bismarck.

He began planting trees in 1928 to stop the cold wintry winds around his farmstead and to get some protection for his livestock. Then, he went to the Missouri River bottoms and dug out cottonwood, ash, and boxelder and dug them in by hand around the west side of his farm.

When the drought years of the 30's hit and were about to wipe out the newly started windbreak, Flanagan recalls how he and his wife were able to save the shelterbelt "by hauling water to the trees by placing a barrel on a stoneboat pulled by the farm chore team."

Flanagan was among the first district cooperators in the South Burleigh Soil Conservation District, signing up in 1942, a year after the district was formed. He has carried out his conservation plan to the letter over the last 33 years.

He has put many conservation practices on the land—sod waterways, wind stripcropping, stubblemulch fallow, crop residue use, proper range use . . . and farmstead and single-row windbreaks.

In 1959, he planted 5 miles of single-row windbreaks every 20 rods across all his fields to reduce wind erosion on his cropland. He planted as many tree and shrub combinations as possible with the varieties available. The tree species included

Edward Flanagan hoes around recently planted trees in a windbreak.

Dropmore elm, Siberian elm, ash, American elm, and Russian olive. The shrub species included caragana, honeysuckle, and chokecherry.

Over the years Flanagan and his wife have gained a soft spot in their hearts for ash and Ponderosa pine. "If I were going to start over today on my windbreaks, I'd plant a lot more ash and pine," he says.

In addition to the many windbreaks, the Flanagans planted an orchard which produces many varieties of apples and plums.

Ask Flanagan what he considers some of the important steps in getting a good windbreak and he replies: "Call on the Soil Conservation Service to help you plan and lay out the area where you are planting the trees. Summer fallow the area at least 1 full year before you plant. After the trees are planted, keep the weeds out of the windbreak, both between the rows and in the row. Some of my windbreaks 20 years old are still being cultivated."

Wildlife of all kinds have found a home in the Flanagans' windbreaks and at one time, more than 150 pheasants were counted as they walked through the yard to a winter feeding area.

Flanagan has been active on the board of supervisors of the conservation district over the years. He was elected to the board in 1948 and has missed only two meetings since then—he was hospitalized with a broken leg after a horse fell on him.

Semiretired now, Flanagan still keeps posted on all activities and is always on hand to help with the many conservation activities carried on by the district. He helps with the annual seventh grade conservation tour, delivers trees to the grade school winners for the poster contest on "How to Keep North Dakota Clean," helps judge contests sponsored annually by the district, and helps in other events to honor people for their extra efforts in conservation. ♦

Texas Research Taps Insects For Brush and Weed Control

A report from Texas indicates that insects can be a significant part of the solution to brush and weed control problems which have been bugging western ranchers for years.

Studies under the Brush Control Research Program at Texas Tech University show that insects, in conjunction with chemical, mechanical, and cultural control techniques, may be the ultimate solution to the brush control problem.

Research has demonstrated that after controlled burning of range brush, mortality of mesquite, pricklypear, and cholla has been increased by the combined effects of insects, drought, and competition with native grasses.

In one test, mesquite resprouts were selected for study following prescribed burning. Half the resprouts in the test were treated with insecticides throughout the growing season; half were not treated. Resprouts not treated showed 53 percent less growth than the treated sprouts, which were protected from insect injury.

The insect study was among 46 projects reported in "Noxious Brush and Weed Control Research Highlights—1974," published by the Department of Range and Wildlife Management, Texas Tech University, Lubbock.

"Noxious brush and weeds infest some 80 percent of usable rangeland in Texas alone," according to Dr. Donald F. Burzlaff, director of the research program and chairman of the Department of Range and Wildlife Management.

"These plants waste water, provide little or no nutritive value to livestock and compete with beneficial plants and grasses.

"Controlling them effectively means millions of dollars annually to ranchers," Burzlaff said. ♦

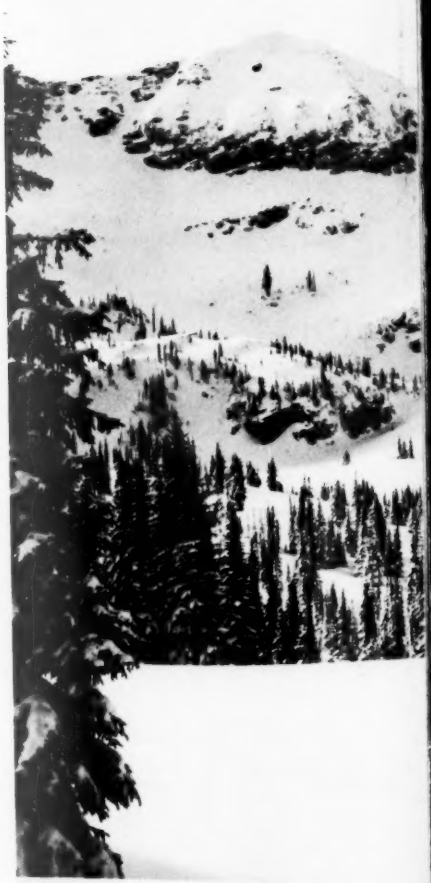
'Limits'

"Limits," the slide show prepared by the Soil Conservation Service for the Bicentennial, is now available. Tracing the history of the conservation movement in America, "Limits" opens with the early settlers in the New World, when resources seemed limitless.

The 80-slide set can be ordered from the Office of Communication, Photography Division, U.S. Department of Agriculture, Washington, D.C. 20250. Price for the 80-slide set is $20.50, which includes a cassette narration. A film strip with cassette narration is also available for $12.50.

A 'Snow' Job for Utah Youth

by Beverly J. Miller
Information specialist, SCS, Salt Lake City, Utah



Horseback . . . snowmobile . . . snowshoes. Whatever it takes, young conservationists in Tooele County, Utah, get to their job—snow surveying.

For 2 years, the 19 members of the Soil Conservation District Junior Board in Tooele County have helped collect snow depth, snow water content, and precipitation figures for the state's monthly water supply forecast report.

In the process, they've saved many dollars in the snow surveying and water supply forecasting program coordinated by the Soil Conservation Service.

The Junior Board members make regularly scheduled monthly trips from October to June to four assigned sites high in the mountainous watersheds south and southeast of the city of Tooele.

They are assisted by their adviser, Leland Beckstrom, vocational agriculture instructor at Tooele High School, and SCS District Conservationist Don Braithwaite.

The sites, known as snow courses, vary in length and contain 5 to 11 sampling stations. At each station, Junior Board members cut a hole with a hollow aluminum tube down to the bottom of the snowpack and bring up a core of snow which they then weigh along with the tube. By subtracting the known weight of the empty tube, they calculate the water content of the core in inches of water.

Their findings, together with reports from some 160 other snow courses in the state, are sent to SCS state snow survey supervisors—who process the information and fit it into special formulas to obtain the state's water supply forecast for the coming snowmelt season.

The state report in turn is consolidated into a Water Supply Outlook. This report is issued monthly from February through May for the 11 western states and the Columbia River drainage basin in Canada. This covers the area where most of the usable water originates as mountain snowfall.

The reports are used by a wide variety of people in planning and managing water supplies for agricultural, recreational, municipal, and industrial uses.

To get to the remote snow courses, the Junior Board members use pickup trucks, horses, snowmobiles, and snow shoes.

The snowmobiles they use are loaned to the local Future Farmers of America Chapter and SCS reimburses the chapter $200 per year to help maintain the machines. Precipitation scales and snow tubes are furnished by SCS, but other needed materials, including horses and snowshoes, are supplied by Junior Board members.

Besides the snow survey work, the Junior Board, composed of 14 boys and 5 girls,

has written several other projects into its annual plan of work. One future project is range plant inventory identification and evaluation study to determine forage and erosion control values of various plants.

In November, they organized a work force of high school students to hand seed critically eroded areas on Anaconda Company lands where sulfides and other air pollutants from an old Anaconda smelter had severely damaged and destroyed vegetation.

Other activities include helping with a land judging program and a range tour, serving as speakers during Soil Stewardship Week, and helping man the state fair booth of the Utah Association of Soil Conservation Districts. ♦

'Our Little Paradise'

by Anne Zack
Information Division, SCS, Washington, D.C.

Elementary students in Wewoka, Oklahoma, call their outdoor classroom "Our Little Paradise."

When it's time to go outdoors for classwork, "they brighten up as if I had waved a magic wand," said Neva Chelf, one of the teachers at Wewoka Elementary School southeast of Oklahoma City.

Now in its second year of use, the outdoor classroom covers 7 acres of privately owned land within three short blocks of the school. The use of the land was donated by Albert Norvell, a rancher and cooperator with the Seminole County Conservation District.

"Our Little Paradise" is on a hilly site with meadows, fossil deposits, and a pond. Twenty-six species of trees grow there —an unusually large number for that part of Oklahoma. These include hickory, oaks, and pecan, as well as less common species in the area such as wild plum.

The size of the tract and the variety of resources offer many different learning opportunities. In planning the outdoor classroom, teachers assigned each class an area of responsibility outdoors to tie in with its area of concentration in the science program indoors. The students suggested and planned their specific projects.

First graders are building and maintaining a rock garden, and second graders, a flower garden. Third, fourth, and fifth graders study and maintain the pond, bird feeders, and a weather station. Sixth graders are mapping the outdoor classroom and identifying trees as well as taking charge of general maintenance.

Keeping the concept of the total environment in mind, Wewoka teachers try to weave all these separate lessons into an understanding of the interdependence of life systems.

In addition to their science projects, the students use "Our Little Paradise" for other subjects. It is a source of illustrations for math problems and an inspiration for art and poetry, for instance.

Special education teachers are finding the outdoor classroom to be an invaluable aid. One teacher explained that her students learn to write and spell more easily by writing in sand because the "feel" of the sand around their fingers helps them remember what they have written.

Interest in an outdoor classroom began in 1973 when Mrs. Chelf and four other Wewoka Elementary School teachers attended a 3-week National Science Foundation workshop in Colorado. Camilla Nash, principal of the school, gave her enthusiastic support to the outdoor classroom project.

John Chelf, SCS district conservationist in Wewoka and husband of Neva Chelf, helped with a conservation plan, and the Seminole County Conservation District donated planting materials and funds for the project. Several townspeople contributed money or volunteered their services. John Chelf said one source of pride in the outdoor classroom is that it is a community project developed entirely with local funds.

The students were involved in developing the outdoor classroom from the beginning, said Mrs. Nash. That is nothing

new for Wewoka Elementary School. Students have participated in environmental projects on the school grounds for the last 5 years.

For example, 2 years ago students contributed nickels, dimes, and quarters to buy plants to protect an eroded terrace in front of the school. A committee of students accompanied teachers to a nursery to select the plants. The students planted their pyracantha, yellow and white euonymus, holly, and ground cover on the terrace. They still water those plants, which is about the only maintenance they need. And they have stopped sliding down the terrace, which caused the erosion in the first place.

"The students' care in maintaining their school grounds and outdoor classroom proves that when children are given an active part in improving their environment, they do respond with a sense of responsibility," said Mrs. Nash.

"We take the environment too much for granted. If we don't make a conscious effort to take care of it, it will be destroyed.

"This is something children should learn early in their lives, and it is the most important lesson 'Our Little Paradise' can teach." ♦

The formation of soil is the topic as Neva Chelf and a science class study lichen and ferns at the outdoor classroom of Wewoka Elementary School.

Outdoors Study Multiplies in Mobile

by Morris Gillespie
Information officer, SCS, Auburn, Alabama

Mobile County Public School System Photo

A 640-acre tract, a few miles from downtown Mobile, Alabama, is being used to expand environmental education programs in the 83 schools of the Mobile School System.

The acreage includes a forest, a natural area maintained primarily as a preserve, and an instruction area surrounding a 20 acre lake stocked with fish. Officially known as the Environmental Studies Center, the area provides outdoor learning opportunities for the 66,000 students in the school system.

Dr. Michael Magnoli, coordinator of the center, and his staff tailor outdoor sessions to fit the needs of the visiting class.

As the program and facilities at the center expand, according to Dr. Magnoli, learning opportunities will include not only natural science but also art, music, geography, math, and language arts.

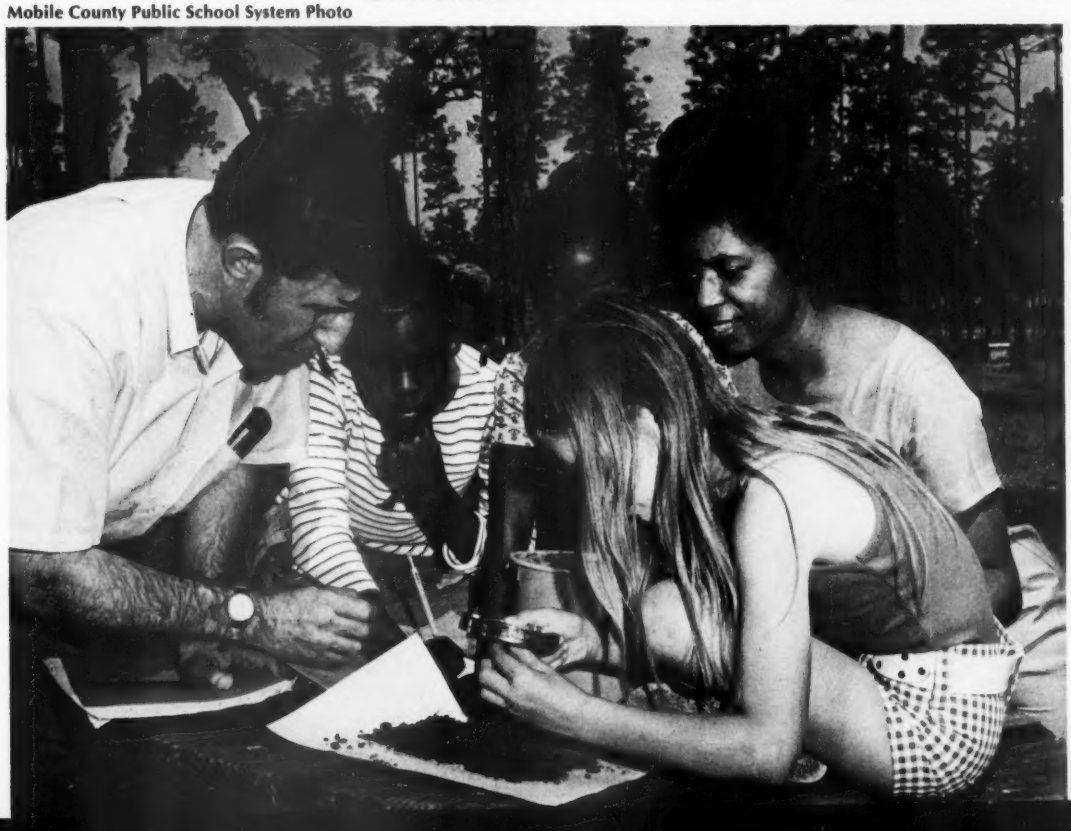
Resource agencies and organizations include the local chapter of the National Audubon Society, which helped to identify birds of the area. The Mobile County Soil and Water Conservation District and the Soil Conservation Service helped with planning and applying conservation practices.

Studying water samples from the 20-acre lake is part of a day's activity at the center.

Plans for the center, owned and operated by the school system, include the addition of a laboratory, museum, library, and planetarium. An arboretum and a greenhouse are also planned along with more trails and foot bridges to make swampy areas more accessible for study. ♦

At right, SCS Soil Scientist Grant Mattox shows students how a soil profile is taken. Below, Vincent Brocato, science supervisor for the Mobile County Public School System, and Lily Dailey, a teacher from Dodge Elementary School, lead students in studying soil organisms.

Mobile County Public School System Photo



Native Grasses and Wildflowers—Low Maintenance Plants

Kent Alverson*

Last year, the national Flower and Garden magazine published an article entitled "Colorful Corridors," telling of the use of native grasses and flowers to stabilize and beautify the highway rights-of-way.

The article mentioned work by SCS plant materials specialists in plant selection. As a result, both the magazine and I were bombarded with requests from housing developers, state grounds maintenance officials, landscape architects, and owners of retirement homes.

Their interest was in plants that could cut maintenance costs as well as beautify. With labor, machinery, fuel, and fertilizer costs up, it is terrifically expensive to keep parks, recreation areas, and other public lands in a presentable condition. This is a problem that has created widespread and growing interest in the use of native grasses and wildflowers for open areas.

State roads and highway officials have taken the lead in the use of native species of plants for erosion control and beautification. In this work they have received special assistance from the Soil Conservation Service and Extension Service. The SCS Manhattan Plant Materials Center in Kansas has done extensive work with grasses native to the Midwest prairie.

Others active in promoting interest in native grasses and wildflowers include the Soil Conservation Society of America, nearly 3,000 local conservation districts, many garden clubs throughout the United States, and commercial seed producers.

Not all low maintenance plants are native, of course. Birdsfoot trefoil, a legume with a bright yellow flower, is a favorite for roadside beautification with the Iowa highway department. It has grown for centuries in Europe, Asia, and Africa. The pinkish blossoms on dark green foliage seen along many sections of interstate highways are distinctive features of crownvetch. This is a legume plant developed and improved by the Soil Conservation Service.

According to Bob Lippert, SCS plant materials specialist at Manhattan, the plant materials center has made a big contribution in warm-season grasses. Seed of many native grasses is now available from dealers. Wildflowers and other forbs used in beautification are currently hard to find and must be ferreted out on an individual basis. The Soil Conservation Society of America, Ankeny, Iowa, has published a list of sources, but there is no guarantee of availability of any particular species or variety.

The trend to native and other hardy plants that are pretty and practical gets the support of both conservationists and preservationists. "Conservation" is the productive use of land without abuse. "Preservation" is keeping land in its natural state. When land is managed principally for its eye appeal and the ease of walking or driving through it, management often requires a compromise. It isn't "idle" land because the public puts certain demands upon it; and it can't be allowed to get too "wild and woolly" as this is offensive to many people.

The situation for the maintenance official is comparable to that of the beautician or hair stylist who is striving for the "natural look." Even to reach a compromise requires real salesmanship.

At the Kansas City International Airport, maintenance director N. A. "Dutch" Bertholf declares that convincing management to change can be a tough problem.

"Everybody must understand that it takes a completely different approach to landscaping. Like growing a beard, you have to make the decision to "go native." Then you have to get all the other people involved in the program to know and accept what you're trying to do. It's an educational process for

* Mr. Alverson was formerly head of the field information unit for SCS at the Technical Service Center in Lincoln, Nebraska. He retired in June 1975.

the public and their elected officials."

But Bertholf feels it is all worthwhile. He has now seeded 180 acres in native grasses. The first seedings, in 1971, consisted of buffalograss, big and little bluestem, sideoats grama, lovegrass, crownvetch, and blue grama.

Bertholf has worked closely with Fred Markham, landscape architect for the airport, in the plantings. In addition, SCS assistance has come from both Missouri and Kansas. Bob Lippert of the Manhattan Plant Materials Center has provided

Initial costs for establishing native grasses and wildflowers may run high, with special seeding equipment needed, particularly if the new seedings must compete with well-established vegetation.

seed and technical assistance in planting, as have Richard R. Brown, SCS plant materials specialist in Columbia, Missouri, and Gary L. Reed, SCS district conservationist in Platte City, Missouri.

The original purpose of the airport seedings was for the "image" of midwestern prairie given to air travelers using the airport approach road, says Bertholf. The idea of savings in maintenance costs came later.

"It will practically eliminate all mowing on the entrance road," says Bertholf. "There is only a 30- to 40-foot span of low grasses for a transition to natives. It will reduce our total mowing costs by two-thirds. There is also a reduction in fertilizer. The natives won't require any fertilizer. Fertilizer costs have risen from $72 a ton to $339 a ton in just 3 years."

For ridgetop areas, Bertholf has seeded yellow coneflower. "They will be most dominant in our wildflower plantings. They bloom all summer," he explains. "There will also be black-eyed-susan in season."

"Our first 3 years have been the most difficult. Once we have the native plants established, we can more or less forget them—just let them do their own thing."

A problem with any grass seeding is competition with established plants. In the case of the Kansas City Airport, the entire airport was earlier seeded to Kentucky 31 fescue, a hardy, competitive grass species. The runway areas will remain in fescue. For the first seeding of natives, the cost ran as high as $90 an acre. However, costs of future seedings will be less and savings over the years will make it a profitable investment, Bertholf asserts. ♦

Landscape architect Fred Markham of Kansas City and SCS plant materials specialist Robert Lippert weigh carefully each portion of seed chosen for the mixture of native grasses at the Kansas City International Airport.

Nonfederal Sources Provide $5.6 Million For '74 Soil Surveys

Contributions to soil survey work from nonfederal sources totaled $5,609,000 in fiscal year 1974—nearly $1 million more than the year before.

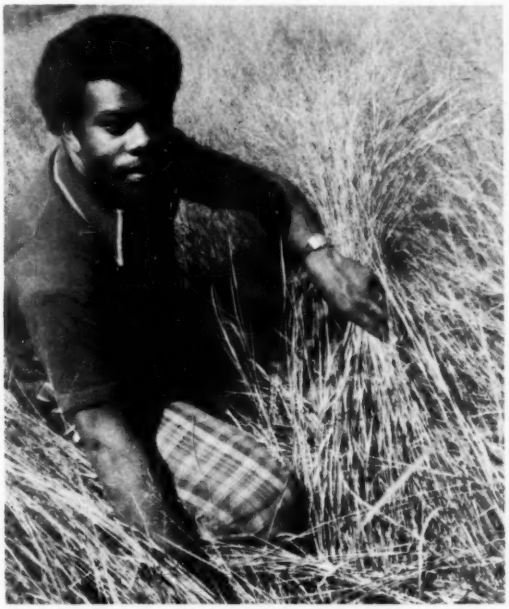
The state with the highest contribution was Ohio with a total of $698,000 in funds and services toward soil survey work. Three other states each made contributions of more than $300,000—Iowa ($394,000), California ($346,000), and Florida ($329,000).

Sixteen additional states contributed more than $100,000 each in funds and services—Connecticut, Illinois, Indiana, Maine, Massachusetts, Michigan, Minnesota, Montana, Nebraska, New York, North Carolina, North Dakota, Oregon, Pennsylvania, Vermont, and Wisconsin.

These contributions include manpower, equipment, and office space as well as cash. ♦

Kleingrass 'On the Move' in West Central Texas

by Charles R. Adams
Soil conservationist, SCS, Abilene, Texas



The author shows vigorous growth of kleingrass during its first year of establishment on a farm near Abilene.

For many years farmers and ranchers in west Texas had looked for a grass species that would be adapted to the dry climatic conditions that often beset the area.

The answer was thought to be Coastal bermudagrass, which provides abundant tonnage under proper fertilization and management conditions. Then the energy crises put a tight grip on area farmers as fertilizer prices soared.

Fertilization is a must to gain quality forage production from Coastal bermudagrass in west central Texas. Interest quickly dropped and livestock farmers again started looking at other grasses that would replace Coastal bermudagrass. Plant specialists had been evaluating many grasses imported from Africa, but it was not until the 1950's that desirable types of kleingrass were introduced and evaluated.

From these introductions, a superior type was selected and released as Selection 75 Kleingrass by the Soil Conservation Service and the Texas Agricultural Experiment Station in 1969. This warm-seasoned perennial bunch-type grass is a sturdy plant growing to heights of 3 to 4 feet at maturity. It has quickly replaced Coastal bermudagrass as the desirable grass to use on livestock farms and ranches. The success of kleingrass in west Texas can be attributed to the similarity in climatic conditions between Africa and west Texas.

Even though I have never visited Africa, discussing kleingrass makes me feel somewhat at home. I have made a concerted effort for more than 2 years to increase the establishment of Selection 75 Kleingrass in west central Texas. This includes writing news releases on the grass, presenting radio talks and, on many occasions, appearing on television talk shows. Recently at the West Texas Fair in Abilene, a grass display with kleingrass samples drew much interest and attention.

Today thousands of acres have been converted to kleingrass. It is extremely rewarding to plan a practice on a farm here in Texas and return later in the year to see a sea of plants from the homeland—kleingrass from Africa. ♦

Apples Add Up on Protected Hillside

by Frank Jeter, Jr.
Information officer, SCS,
Raleigh, North Carolina

Conservation practices enhance the apple crop for Pink Francis (center).

"Mountain people treasure their land. They have less of it than people in some parts of the country. So it makes sense to take good care of every square inch of the soil."

That's how Pink Francis, who operates a fruit farm on some of the hilliest terrain you can find, feels about the land he knows in Haywood County, North Carolina.

Francis has been a supervisor of the Haywood Soil and Water Conservation District for 15 years and is currently chairman of the district.

He's a solid backer of conservation programs, not only because they preserve the natural beauty of the mountain surroundings, but also because they are important economically.

Francis' 50-acre orchard is on a hillside so steep that you might think it suitable only for grazing goats, with a good stand of pasture. Yet rows of apple trees grow on narrow ledges or "benches" laid out by the Soil Conservation Service, and a protective cover of grass grows between each tree.

Francis averages nearly 25,000 bushels a year from his orchard over a 7-month season. He grows principally Red Delicious and Golden Delicious but also produces Stayman, Rome Beauty, and Courtland "just to even out the season."

He and his wife Ellene enjoy meeting people and do most of their business in retail sales at the orchard. Mrs. Francis handles the retail sales, keeps the books, and supervises the cider operation while her husband manages the farm. At the peak of the harvest season, Francis employs some 30 workers.

"We don't dump a single apple, except what the crows peck," Francis comments. In addition to their "over-the-counter" sales, they ship gift packages. They can store up to 22,000 bushels of apples in a refrigerated building on the farm.

Apples are their main business, but they also produce cherries, currants, and gooseberries and sell them at wholesale to a nearby grocery store.

Of his venture, Francis comments: "You only need management and a good conservation plan.

"You need the management for the production and marketing of the fruit, and you need a good conservation plan to keep the whole hillside in place." ♦

Soil surveys

California

Sierra Valley Area (Parts of Sierra, Plumas, and Lassen Counties). By Harold R. Sketchley. 1975. Soil Conservation Service and Forest Service in cooperation with University of California Agricultural Experiment Station. 121 pp., illus.; maps.

Florida

Ocala National Forest Area (Parts of Marion, Lake, and Putnam Counties). By D. Gray Aydelott, Henry C. Bullock, Albert L. Furman, Horace O. White, and James W. Spieth. 1975. Soil Conservation Service and Forest Service in cooperation with University of Florida, Institute of Food and Agricultural Sciences, Agricultural Experiment Stations, Soil Science Department. 64 pp., illus.; maps.

Iowa

Madison County. By Elton L. King, Raymond I. Dideriksen, and Charles S. Fisher. 1975. Soil Conservation Service in cooperation with Iowa Agriculture and Home Economics Experiment Station. 118 pp., illus.; maps.

New York

Washington County. By Harvel E. Winkley. 1975. Soil Conservation Service in cooperation with Cornell University Agricultural Experiment Station. 149 pp., illus.; maps.

Ohio

Clermont County. By Norbert K. Lerch, William F. Hale, and E. Larry Milliron. 1975. Soil Conservation Service in cooperation with Ohio Department of Natural Resources, Division of Lands and Soil, and Agricultural Research and Development Center. 97 pp., illus.; maps.

Richland County. By Charles E. Redmond, William H. Brug, John R. Vann, and E. L. Milliron. 1975. Soil Conservation Service in cooperation with Ohio Department of Natural Resources, Division of Lands and Soil, and Ohio Agricultural Research and Development Center. 132 pp., illus.; maps.

Texas

Anderson County. By Daniel R. Coffee. 1975. Soil Conservation Service in cooperation with Texas Agricultural Experiment Station. 92 pp., illus.; maps.

Garza County. By Wayne E. Richardson, Darrell G. Grice, and Lee A. Putnam. 1975. Soil Conservation Service in cooperation with Texas Agricultural Experiment Station. 84 pp., illus.; maps.

Washington

Jefferson County Area. By Fred R. McCreary. 1975. Soil Conservation Service in cooperation with Washington Agricultural Experiment Station. 100 pp., illus.; maps.

New publications

Drainage Around Your Home. 1975. *USDA Home and Garden Bulletin No. 210. 8 pp., illus.* $0.25.

This leaflet explains for homeowners the five main causes of wetness at homesites (flooding, springs and seeps, seasonal high water tables, ponding of surface water, and slow soil permeability) and reviews measures, such as subsurface drains and site grading, used to improve drainage.

Meetings

January 1976

13–17 *American Seed Trade Association Garden Seed Conference, San Francisco, Calif.*
14–15 *National Council of Farm Cooperatives, Washington, D.C.*
19–22 *National Wool Growers Association, Wichita, Kans.*
19–22 *North American Game Breeders and Shooting Preserve Association Convention, Milwaukee, Wisc.*
27–30 *American National Cattlemen's Association, Phoenix, Ariz.*

February

1–5 *National Association of Conservation Districts, Honolulu, Hawaii*
4–6 *Commercial Fish Farmer Showcase (Catfish Farmers of America Official Convention), Biloxi, Miss.*
16–20 *Society for Range Management, Omaha, Nebr.*
18–24 *American Association for the Advancement of Science, Boston, Mass.*
20–23 *American Association of School Administrators, Atlantic City, N.J.*
22–25 *Sprinkler Irrigation Association Technical Conference, Kansas City, Mo.*
25–27 *Land Improvement Contractors of America, San Diego, Calif.*

March

2–6 *American Camping Association National Convention, Philadelphia, Pa.*
13–17 *Association for Supervision and Curriculum Development, Miami Beach, Fla.*
19–21 *National Wildlife Federation, Louisville, Ky.*
19–23 *National Science Teachers Association National Convention, Philadelphia, Pa.*
28–Apr. 2 *American Concrete Pipe Association, Coronado, Calif.*

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